

### Recent Fern Literature

MARSILEALES AND SALVINIALES—"LIVING FOSSILS"?—Under this intriguing title Dr. A. D. J. Meeuse, of the University of Amsterdam, has published<sup>1</sup> a paper of value to those interested in phylogenetic speculations. Dr. Meeuse states that a close relationship between either *Marsilea* or *Salvinia* to the true ferns (Filices) has never been demonstrated. They have a number of peculiar characters that can be interpreted as extremely primitive. In 1930, Zimmerman advanced the idea that *Marsilea* might be a descendent of the Caytoniales, an extinct, advanced order of the seed ferns (Pteridospermae), but this has since been challenged. Meeuse advances the reverse hypothesis, that the Caytoniales were descended from a primitive stock of the Glossopteridales, of which *Marsilea* is a surviving representative. The reproduction of the Glossopteridales is insufficiently known, but they did, like *Marsilea*, have a rhizomatous stem producing fronds of which the fertile ones bear several stalked sporangium-bearing organs in the basal portion. The frond segments of *Marsilea* are similar to those of the form-genus *Sagenopteris* and the venation is "glossopteroid." Similarly, *Salvinia* and *Azolla* can be interpreted as descendants of the Lyginopteridales, another order of the Pteridospermae. The megasporangium is suggestive of that of *Lagenostoma* and the microsporangium of that of the recently discovered *Saarothea*, and the venation is "neuropteroid." If true, this would make *Marsilea* and *Salvinia* living representatives of the Pteridospermae, and thus "living fossils" in the same sense that *Isoetes*, *Equisetum*, and *Psilotum* are living representatives of primitive groups that are otherwise long extinct. Meeuse explains the persistence of *Marsilea* and *Salvinia* as due to their aquatic habitat, where the competition with the more recent and successful gymnosperms and angiosperms has not been so keen, and also to their facile vegetative reproduction, *too facile as is*

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<sup>1</sup> Acta Bot. Neerl. **10**<sup>3</sup>: 257-260. 1961.

at present being demonstrated by the unprecedented and harmful growth of *Salvinia* in Lake Kariba,<sup>2</sup> in Northern Rhodesia, where it is continuing to fill up the lake rapidly. A recent suggestion for controlling such aquatic pests is the introduction of our southern "sea-cow" or manatee, an aquatic mammal which is a prodigious eater of vegetation.<sup>3</sup>—C. V. Morton.

TROPICS MAGAZINE<sup>1</sup> is a new publication dealing with the tropics in general, in particular with tropical plants and gardening. The first number contains articles on staghorn ferns, gesneriads, bromeliads, and aroids. It will be of interest to members living in Florida or those growing tropical plants in greenhouses.

### Notes and News

RICHARD C. HARLOW: 1889–1962—Obituary notices of a famous football coach appeared a few weeks ago on the sports pages of newspapers the country over. Why should this lead to these lines in a quite different periodical? Because they concerned Richard C. Harlow. He was born in Philadelphia in 1889 and studied at Pennsylvania State College where his interest was awakened in nature study as a hobby. For many years he traveled far and wide observing the nesting habits of birds. Then, in the 1930's, while coaching at Harvard University, he chanced to meet our revered members, the Weatherbys, who stimulated in him an interest in ferns. He joined our Society in 1940, but withdrew when ill health came on.

Dick Harlow built a marvellous fern garden at his summer home near South Sterling, Pennsylvania. Being an extraordinary "finder," he soon had this filled with rare species and hybrids. Whenever a report of something new appeared, he

<sup>2</sup>"Fern Monster?" THIS JOURNAL **51**: 53. 1961.

<sup>3</sup>Allsopp, W. H. L. The Manatee—ecology and use for weed control. Nature **188**: 762. 1960.

<sup>1</sup>Vol. 1, no. 1. pp. 1–65. June, 1962. P. O. Box 435, Coconut Grove 33, Florida. Subscription \$4.00 a year (\$4.50 foreign).